

WHAT IS CLAIMED IS:

1. A method for managing registration requests from a plurality of devices, the method comprising the following steps performed at a controller:

- 5 receiving a token request from a device;
determining a registration load on the controller;
granting a token to the device in response to the registration load;
receiving a token registration request from the
10 device; and
storing the token registration request in a registration queue upon determining that the device has been granted the token.

- 15 2. The method of Claim 1, wherein:
the controller comprises a call manager operable to maintain a registration table that stores an address mapping for the device upon registration; and
the device comprises a packet-based telephony device
20 managed by the call manager.

3. The method of Claim 1, further comprising:
receiving an initial registration request from a second device; and
25 storing the initial registration request in the registration queue at a lower priority than the token registration request.

4. The method of Claim 1, further comprising:
receiving a priority device registration request
from a second device; and
storing the priority device registration request in
5 the registration queue at a higher priority than the
token registration request.

5. The method of Claim 1, wherein the device
comprises a first packet-based telephony device, and
10 further comprising:

receiving an initial registration request from a
second packet-based telephony device;

storing the initial registration request in the
registration queue at a lower priority than the token
15 registration request;

receiving a priority device registration request
from a telephony gateway device; and

storing the priority device registration request in
the registration queue at a higher priority than the
20 token registration request.

6. The method of Claim 1, further comprising
processing registration requests stored on the
registration queue in priority order and at a rate
25 determined by the processing resources of the controller.

7. The method of Claim 1, further comprising:
receiving a token request from a second device;
determining the registration load;
denying the token request; and
5 communicating to the second device a response having
a retry time that indicates when the second device should
communicate another token request.

8. The method of Claim 1, wherein the registration
10 load comprises at least one of the following:
a processor load of the controller; and
a number of registration requests stored in the
registration queue.

15 9. The method of Claim 1, wherein:
the token granted to the device includes a timeout;
and
storing the token registration request on the
registration queue further comprises storing the token
20 registration request on the registration queue if the
controller receives the token registration request prior
to expiration of the timeout.

10. A method for managing registration requests from a plurality of telephony devices managed by a call manager, the method comprising the following steps performed at the call manager:

- 5 receiving a token request from a first packet-based telephony device;
 - determining a registration load on the call manager;
 - granting a token to the first packet-based telephony device in response to the registration load;
- 10 receiving a token registration request from the first packet-based telephony device;
 - storing the token registration request on a registration queue upon determining that the device has been granted the token;
- 15 receiving an initial registration request from a second packet-based telephony device;
 - storing the initial registration request on the registration queue at a lower priority than the token registration request;
- 20 receiving a priority device registration request from a telephony gateway device;
 - storing the priority device registration request on the registration queue at a higher priority than the token registration request; and
- 25 processing registration requests stored on the registration queue in priority order and at a rate determined by the processing resources of the call manager.

11. The method of Claim 10, further comprising:
receiving a second token request from a third
packet-based telephony device;
determining the registration load;
5 denying the second token request; and
communicating to the third packet-based telephony
device a response having a retry time that indicates when
the third packet-based telephony device should
communicate another token request.

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12. The method of Claim 10, wherein the
registration load comprises at least one of the
following:

15 a processor load of the controller; and
a number of registration requests stored on the
registration queue.

13. The method of Claim 10, wherein:
the token granted to the first packet-based
20 telephony device includes a timeout; and
storing the token registration request on the
registration queue further comprises storing the token
registration request on the registration queue if the
controller receives the token registration request prior
25 to expiration of the timeout.

14. An apparatus for managing registration requests from a plurality of devices, the apparatus comprising:

an interface operable to receive a token request from a device, the interface further operable to receive 5 a token registration request from the device;

a processor operable to determine a registration load on the controller, the processor further operable to grant a token to the device in response to the registration load; and

10 a registration queue operable to store the token registration request upon determining that the device has been granted the token.

15 15. The apparatus of Claim 14, wherein:

the apparatus comprises a call manager operable to maintain a registration table that stores an address mapping for the device upon registration; and

the device comprises a packet-based telephony device managed by the call manager.

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16. The apparatus of Claim 14, wherein:

the interface receives an initial registration request from a second device; and

25 the registration queue stores the initial registration request at a lower priority than the token registration request.

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17. The apparatus of Claim 14, wherein:

the interface receives a priority device registration request from a second device; and

5 the registration queue stores the priority device registration at a higher priority than the token registration request.

18. The apparatus of Claim 14, wherein:

10 the device comprises a first packet-based telephony device;

the interface receives an initial registration request from a second packet-based telephony device and a priority device registration request from a telephony gateway device; and

15 the registration queue stores the initial registration request at a lower priority than the token registration request and the priority device registration request at a higher priority than the token registration request.

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19. The apparatus of Claim 14, wherein the controller processes registration requests stored on the registration queue in priority order and at a rate determined by the processing resources of the controller.

20. The apparatus of Claim 14, wherein the registration load comprises at least one of the following:

a processor load of the controller; and
5 a number of registration requests stored on the registration queue.

21. The apparatus of Claim 14, wherein:
the token granted to the device includes a timeout;

10 and

the registration queue stores the token registration request if the controller receives the token registration request prior to expiration of the timeout.

22. A method for registering with a controller, the method comprising the following steps performed at a device:

- communicating a token request to a controller;
- 5 receiving a token from the controller;
- communicating a token registration request to the controller, the token registration request indicating that the device has received the token from the controller; and
- 10 receiving a registration acknowledgment from the controller.

23. The method of Claim 22, further comprising the following steps performed prior to communicating a token request:

- determining that the controller is unavailable;
- registering with a secondary controller in response to determining that the controller is unavailable; and
- 20 determining, while registered with the secondary controller, that the controller has become available.

24. The method of Claim 22, wherein:

the controller comprises a call manager operable to maintain a registration table that stores an address mapping for the device upon registration; and

25 the device comprises a packet-based telephony device managed by the call manager.

25. The method of Claim 22, further comprising the following steps performed prior to communicating a token request:

- configuring the device;
 - 5 communicating an initial registration request to the controller;
 - registering with the controller in response to the initial registration request;
 - determining that the controller is unavailable;
 - 10 registering with a secondary controller in response to determining that the controller is unavailable; and
 - determining, while registered with the secondary controller, that the controller has become available.
- 15 26. The method of Claim 22, wherein configuring the device comprises:
- detecting a network connection;
 - requesting a device address;
 - receiving the device address;
 - 20 requesting configuration information;
 - receiving configuration information; and
 - configuring the device.

27. The method of Claim 22, wherein:

the device comprises a packet-based telephony device; and

configuring the packet-based telephony device
5 comprises:

detecting a network connection;

broadcasting a request to receive a device address;

receiving the device address from a dynamic
10 host configuration protocol (DHCP) server;

requesting configuration information using a resource address;

receiving configuration information comprising line assignments; and

15 configuring the device using the line assignments.

28. The method of Claim 22, wherein determining, while registered with the secondary controller, that the
20 controller has become available comprises:

periodically and repeatedly communicating a message to the controller; and

determining that the controller has become available if the controller acknowledges the message.

29. The method of Claim 22, wherein communicating a token request, comprises:

communicating a prior token request;
receiving a response denying the prior token
5 request, the response having a retry time; and
communicating a token request after expiration of
the retry time.

30. The method of Claim 22, wherein:

10 the token granted to the device includes a timeout;
and
receiving a registration acknowledgment from the controller occurs if the controller receives the token registration request prior to expiration of the timeout.

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31. Logic for managing registration requests from a plurality of devices, the logic encoded in a medium and operable when executed by a controller to:

- 5 receive a token request from a device;
- determine a registration load on the controller;
- grant a token to the device in response to the registration load;
- receive a token registration request from the
- 10 device; and
- store the token registration request in a registration queue upon determining that the device has been granted the token.

32. A controller for managing registration requests from a plurality of devices, the controller comprising:

means for receiving a token request from a device;

means for determining a registration load on the
5 controller;

means for granting a token to the device in response to the registration load;

means for receiving a token registration request from the device; and

10 means for storing the token registration request in a registration queue upon determining that the device has been granted the token.

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